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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/014,993	12/11/2001	Alan B. Touchberry	H16-25558US	3362

7590 06/21/2005

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EXAMINER	
DONG, DALEI	

ART UNIT	PAPER NUMBER
2879	

DATE MAILED: 06/21/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/014,993	TOUCHBERRY ET AL.	
	Examiner	Art Unit	
	Dalei Dong	2879	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *26 April 2005*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-3,6,7,9-11 and 27-34* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☒ Claim(s) *1-3,6,7 and 9-11* is/are allowed.

6)☒ Claim(s) *27-34* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *11 December 2001* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

1. The Amendment filed on April 26, 2005 has been entered.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claims 27, 29 and 32 are rejected under 35 U.S.C. 102(b) as being anticipated by U.S. Patent No. 4,740,985 to Podgorski.

Regarding to claim 27, Podgorski discloses, in Figures 1-3, a system for restricting a getter (250), comprising in combination: a getter (250) located in an interior of a getter well (210); and a diffusion barrier (product of the reaction between the getter and the hydrogen gas; see column 3, lines 48-53) located on a surface of the getter, wherein the diffusion barrier (product of the reaction between the getter and the hydrogen gas) is a chemical barrier formed by a chemical reaction between a gas (hydrogen) and the getter, wherein the diffusion barrier reduces a rate at which the getter absorbs non-inert gas (see column 2, line 50 to column 3, line 2).

Regarding to claim 29, Podgorski discloses, the getter removes non-inert gases from a cavity.

Regarding to claim 32, Podgorski discloses in Figures 1-3, a system for restricting a getter (250), comprising in combination: forming a diffusion barrier (product of the reaction between the getter and the hydrogen gas) on a surface of a getter (250), wherein the diffusion barrier is a chemical barrier formed by a chemical reaction between a gas and the getter material; and placing the getter material (250) in an interior of a getter well (210) (see column 2, line 50 to column 3, line 2).

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

5. Claims 28, 30, 31, 33 and 34 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 4,740,985 to Podgorski.

Regarding to claim 28, it is old and well known in the art to utilize a barium alloy as the getter material for discharge device with inert gas. The Applicant has also disclosed that barium and titanium or zirconium alloys can be used interchangeably as the

getter material. Furthermore, the Podgorski reference teaches, the use of titanium alloy as the getter material (see column 2, lines 47-48).

Thus, it would have been obvious to one having ordinary skill in the art at the time the invention was made to have utilize the barium alloy, since it has been held to be within the general skill of a worker in the art to select a known material on the basis of its suitability for the intended use as a matter of obvious design choice.

Regarding to claims 30, Podgorski discloses the claimed invention except for the diffusion layer is composed of barium nitride. It would have been obvious to one having ordinary skill in the art at the time the invention was made to have utilize barium nitride as the diffusion barrier, since it has been held to be within the general skill of a worker in the art to select a known material on the basis of its suitability for the intended use as a matter of obvious design choice.

Regarding to claim 31, Podgorski discloses, in Figures 1-3, a system for restricting a getter (250), comprising in combination: a getter (250) located in an interior of a getter well (210), and wherein the getter removes non-inert gases from a cavity; and a diffusion barrier (product of the reaction between the getter and the hydrogen gas) located on a surface of the getter, wherein the diffusion barrier (product of the reaction between the getter and the hydrogen gas) is a chemical barrier formed by a chemical reaction between the getter and the gas, wherein the diffusion barrier reduces a rate at which the getter absorbs non-inert gas (see column 2, line 50 to column 3, line 2).

However, Podgorski does not disclose the getter material is composed of barium alloy and the gas is nitrogen gas.

However, it is old and well known in the art to utilize a barium alloy as the getter material for discharge device with inert gas. The Applicant has also disclosed that barium and titanium or zirconium alloys can be used interchangeably as the getter material for absorbing contaminant nitrogen gas. Furthermore, the Podgorski reference teaches, the use of titanium alloy as the getter material (see column 2, lines 47-48) to absorb any contaminant gases.

Thus, it would have been obvious to one having ordinary skill in the art at the time the invention was made to have utilize the old and well known barium as the getter of Podgorski to react with the nitrogen contaminant gas of nitrogen in order to allow low permeable to gas in very minute quantities.

Regarding to claim 33, it is old and well known in the art to utilize a barium alloy as the getter material for discharge device with inert gas. The Applicant has also disclosed that barium and titanium or zirconium alloys can be used interchangeably as the getter material. Furthermore, the Podgorski reference teaches, the use of titanium alloy as the getter material (see column 2, lines 47-48).

Thus, it would have been obvious to one having ordinary skill in the art at the time the invention was made to have utilize the barium alloy, since it has been held to be within the general skill of a worker in the art to select a known material on the basis of its suitability for the intended use as a matter of obvious design choice.

Regarding to claim 34, it is old and well known in the art to absorb nitrogen gas utilizing a getter system.

Allowable Subject Matter

6. Claims 1-3, 6, 7, 9-11 are allowed.

7. The following is an examiner's statement of reasons for allowance:

Regarding to independent claim 1, prior art of record taken alone or in combination fails to teach or suggest a system for restricting a getter, comprising in combination: the optical cavity is located in the gyroscope block forming a closed loop path along an outer edge of the gyroscope block, and wherein the getter well is located at a distance away from the optical cavity and within the closed loop path formed by the optical cavity; and a hole located in the gyroscope block between the getter well and the optical cavity, wherein the hole has a diameter substantially less than a diameter of the getter well in combination with other claimed features of the present claimed invention.

Regarding to independent claim 9, prior art of record taken alone or in combination fails to teach or suggest a system for restricting a getter, comprising in combination: a hole located between the getter well and the optical cavity, wherein the hole has a diameter substantially less than a diameter of the getter well, wherein the hole

is substantially 0.020 inches in diameter and 0.170 inches long in combination with other claimed features of the present claimed invention.

Regarding to independent claim 10, prior art of record taken alone or in combination fails to teach or suggest a system for restricting a getter, comprising in combination: the optical cavity is located in the gyroscope block forming a closed loop path along an outer edge of the gyroscope block, and wherein the getter well is located at a distance away from the optical cavity and within the closed loop path formed by the optical cavity; and a hole located in the gyroscope block between the getter well and the optical cavity, wherein the hole has a diameter substantially less than a diameter of the getter well in combination with other claimed features of the present claimed invention.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Response to Arguments

8. Applicant's arguments filed April 26, 2005 have been fully considered but they are not persuasive.

In response to Applicant's argument that the Podgorski'985 reference fails to teach or suggest a diffusion barrier located on a surface of the getter, wherein the

diffusion barrier is a chemical barrier formed by a chemical reaction between a gas and the getter. The Examiner interprets the "diffusion barrier" as the product of the chemical reaction of the getter material and the hydrogen gas as disclosed by the Podgorski'985 reference (see column 3, line 39 to column 4, line 2). The Examiner asserts that the hydrogen gas reacts with the getter material and forms a layer of titanium hydride on a surface of the getter material and therefore acts as a "diffusion barrier". The layer of titanium hydride is not as efficient as a getter material as of titanium itself and thus the layer of titanium hydride located on a surface of the getter material acts as a "diffusion barrier". Thus, the Examiner asserts that the prior art of record teaches the claimed invention and maintains the rejection.

Conclusion

9. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

The following prior art are cited to further show the state of the art of composition of a system for restricting a getter.

U.S. Patent No. 4,361,782 to Reiling.

U.S. Patent No. 4,865,436 to Ahonen.

U.S. Patent No. 5,856,995 to Morris.

U.S. Patent No. 5,867,269 to Albers.

U.S. Patent Application No. 2003/0023484 to Patel.

U.S. Patent Application No. 2004/0040941 to Ecklund.

10. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL.** See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Dalei Dong whose telephone number is (571)272-2370. The examiner can normally be reached on 8 A.M. to 5 P.M..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nimeshkumar Patel can be reached on (571)272-2457. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

D.D.
June 14, 2005

Joseph Williams
Primary Examiner
Art Unit 2879